

REMARKS

Favorable reconsideration of this application, in light of the following discussion and in view of the present amendment, is respectfully requested.

Claims 1-16 have been amended. Claim 17 has been cancelled. Claims 1-16 are pending and under consideration.

This amendment is believed to place the application in condition for allowance, and entry therefore is respectfully requested. In the alternative, entry of this amendment is requested as placing the application in better condition for appeal by, at least, reducing the number of issues outstanding.

Entry of Amendment under 37 C.F.R. § 1.116

The Applicant requests entry of this Rule 116 Response because the amendment does not significantly alter the scope of the claims and places the application at least into a better form for purposes of appeal. No new features or new issues are being raised.

The Manual of Patent Examining Procedures (M.P.E.P.) sets forth in Section 714.12 that “any amendment that would place the case either in condition for allowance or in better form for appeal may be entered.” Moreover, Section 714.13 sets forth that “the Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified.” The M.P.E.P. further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

I. Rejections under 35 U.S.C. § 101

In the Office Action, at pages 4-5, claims 2-4, 6-8, 10, and 12 were rejected under 35 USC § 101 as being directed to non-statutory subject matter.

Claims 2-4, 6-8, 10, and 12 have been amended in response to this rejection. Accordingly, withdrawal of these § 101 rejections is respectfully requested.

II. Rejections under 35 U.S.C. § 102

In the Office Action, at pages 5-6, claims 1-17 were rejected under 35 USC § 102(e) as being anticipated by Vos (U.S. Patent No. 4,849,927).

Vos does not discuss or suggest:

a second storage unit configured to store a plurality of encrypted program segments into which the program is divided; and

a secure module capable of performing operations of:
receiving each of the program segments stored in the second storage unit;
returning each of the received program segments to an executable state;
writing each of the program segments, which have each been returned to the executable state, in the first storage unit in a sequence for the processor to execute; and
deleting each of the program segments, which have each been executed by the processor, from the first storage unit after execution is completed,

as recited in amended claim 1. The invention of claim 1 provides for dividing an encrypted program into a plurality of encrypted program segments and decrypting each of the program segments individually after each of the program segments is requested to be executed.

Thereafter, each decrypted program segment is loaded into a memory to be executed and, finally, the decrypted program segment in the memory is erased from the memory after execution. In other words, the invention of claim 1, at a stage of execution of a program, divides a program into a plurality of part programs and then the part programs are sequentially loaded in a memory one-by-one, wherein each part program is executed after it is changed and expanded in the memory. As such, a program, which is expanded in a memory, is different according to each occasion of execution. Thus, it is difficult for the program to be unfairly read by a third party.

Vos discloses that a program is held in both a data memory and a program memory to be divided. However, Vos does not disclose that a code sequence (KA) is expanded differently according to the respective occasions of execution. In Vos, the KA is a constant and unchanged code sequence and it is made executable after being expanded in the data memory and the program memory. As such, Vos provides that the decrypted program as a whole is in the memory during execution, thereby risking the program to unfair analyzing. Therefore, Vos fails to disclose each of the features of claim 1.

Since Vos does not discuss or suggest all of the features of claim 1, claim 1 patentably distinguishes over Vos. Accordingly, withdrawal of this § 102(e) rejection is respectfully requested.

Claims 2-4 depend either directly or indirectly from claim 1, and include all the features of claim 1, plus additional features that are not discussed or suggested by the reference relied upon. Therefore, claims 2-4 patentably distinguish over the reference relied upon for at least the

reasons noted above. Accordingly, withdrawal of these § 102(b) rejections is respectfully requested.

Vos does not discuss or suggest:

- a second storage unit configured to store a plurality of encrypted program segments into which the program is divided and rewrites itself with invalid code just before the program is completed; and

- a secure module capable of performing operations of:

- receiving each of the program segments stored in the second storage unit;

- returning each of the received program segments to an executable state;

- writing each of the program segments, which have each been returned to the executable state, in the first storage unit in a sequence for the processor to execute; and

- deleting each of the program segments, which have each been executed by the processor, from the first storage unit after execution is completed,

as recited in amended claim 5, so that claim 5 patentably distinguishes over Vos. Accordingly, withdrawal of the § 102(e) rejection is respectfully requested.

Claims 6-8 depend either directly or indirectly from claim 5, and include all the features of claim 5, plus additional features that are not discussed or suggested by the reference relied upon. Therefore, claims 6-8 patentably distinguish over the reference relied upon for at least the reasons noted above. Accordingly, withdrawal of these § 102(e) rejections is respectfully requested.

Vos does not discuss or suggest:

- a second storage unit configured to store an encrypted program;
- and

- a secure module capable of performing operations of:

- receiving the encrypted program stored in the second storage unit;

- dividing the received encrypted program into a plurality of encrypted programs segments;

- returning each of the program segments to an executable state;

- writing each of the program segments, which have been returned to the executable state, in the first storage unit in a sequence for the processor to execute; and

- deleting each of the program segments, which have been executed by the processor, from the first storage unit after execution is completed,

as recited in amended claim 9, so that claim 9 patentably distinguishes over Vos. Accordingly, withdrawal of the § 102(e) rejection is respectfully requested.

Claim 10 depends directly from claim 9, and includes all the features of claim 9, plus additional features that are not discussed or suggested by the reference relied upon. Therefore, claim 10 patentably distinguishes over the reference relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 102(e) rejection is respectfully requested.

Vos does not discuss or suggest:

- a second storage unit configured to store an encrypted program;
- and
- a secure module capable of performing operations of:
 - receiving the encrypted program stored in the second storage unit;
 - dividing the received encrypted program into a plurality of encrypted program segments and making each of the plurality of program segments to be a program that rewrites itself with an invalid code just before the program is completed;
 - returning each of the program segments to an executable state;
 - and
 - writing each of the program segments, which have been returned to the executable state, in the first storage unit in a sequence for the processor to execute,

as recited in amended claim 11, so that claim 11 patentably distinguishes over Vos. Accordingly, withdrawal of the § 102(e) rejection is respectfully requested.

Claim 12 depends directly from claim 11, and includes all the features of claim 11, plus additional features that are not discussed or suggested by the reference relied upon. Therefore, claim 12 patentably distinguishes over the reference relied upon for at least the reasons noted above. Accordingly, withdrawal of the § 102(e) rejection is respectfully requested.

Vos does not discuss or suggest:

- a first storage unit where a plurality of encrypted program segments, into which an encrypted program has been divided, are kept resident before execution;
- a processor configured to execute each of the program segments written in the first storage unit;
- a second storage unit configured to store an encrypted call program that calls program segments as an execution program;
- and
- a secure module capable of performing operations of:
 - receiving the call program stored in the second storage unit;

returning the received call program to an executable state;
writing the call program, which has been returned to a
corresponding executable state, in the first storage unit in a
sequence for the processor to execute a divided program; and
deleting the call program, which has been executed by the
processor, from the first storage unit after execution is completed,

as recited in amended claim 13, so that claim 13 patentably distinguishes over Vos.
Accordingly, withdrawal of the § 102(e) rejection is respectfully requested.

Claim 14 depends directly from claim 13, and includes all the features of claim 13, plus
additional features that are not discussed or suggested by the reference relied upon. Therefore,
claim 14 patentably distinguishes over the reference relied upon for at least the reasons noted
above. Accordingly, withdrawal of the § 102(e) rejection is respectfully requested.

Vos does not discuss or suggest:

a first storage unit where a plurality of encrypted program
segments, into which an encrypted program has been divided, are
kept resident before execution;
a processor configured to execute the program segments written
in the first storage unit;
a second storage unit configured to store an encrypted call
program, which calls program segments just before each program
is completed as each execution program that rewrites itself with
invalid code; and
a secure module capable of performing operations of:
receiving the call program stored in the second storage unit;
returning the received call program to an executable state; and
writing the call program, which has been returned to the
corresponding executable state, in the first storage unit in a
sequence for the processor to execute program segments,

as recited in amended claim 15, so that claim 15 patentably distinguishes over Vos.
Accordingly, withdrawal of the § 102(e) rejection is respectfully requested.

Claim 16 depends directly from claim 15, and includes all the features of claim 15, plus
additional features that are not discussed or suggested by the reference relied upon. Therefore,
claim 16 patentably distinguishes over the reference relied upon for at least the reasons noted
above. Accordingly, withdrawal of the § 102(e) rejection is respectfully requested.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.


Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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